

Expanding Agent KCM025HC

1. Introduction

When Cement reacts with water, the system of cement plus water undergoes a net volume diminution, it occurs because the absolute density of hydrated material is greater than that of initial reactants. In the confined environment of a wellbore, the decrease in absolute volume can affect the transmission of hydrostatic pressure to the formation and can affect cement's ability to prevent annular fluids migration.

Good bonding between the cement and casing and between the set cement and formation is essential for effective zone isolation. Cement system that expand slightly after setting are proven means of sealing micro annuli and improving primary cementing result.

2. Physical Properties and Hazards

Additives	Form	S.G.	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KCM025HC	Pale gray powder	3.47-3.67	Insoluble	>93	Inhalation	Dust	N/A

3. Chemical Properties and Application

KCM025HC is a solid cement additive, which provides cement expansion after setting, tighten cement against the casing and the formation by exerting the compressive forces against both surfaces. This sealing effect prevents and reduces micro-annulus and fluids migration and improves the primary cementing results.

The application temperature ranges of KCM025HC is between 88°C and 350°C, the degree of expansion is strongly affected by the temperature and cement system design.

4. Treatment

For the conventional cement slurry system with density of 1.89kg/cm³, typical concentration range is between 1% and 5%BWOC.

5. Packaging

KCM025HC is supplied in plastic-lining bags with net weight of 25kg/sack. It should be stored in shaded areas with good ventilation. Keep it away from high temperature, humidity and direct sunlight.